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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/666,878	09/19/2003	Evan E. Koslow	KXIN 100027000	8886
22891 7590 04/17/2007 LAW OFFICE OF DELIO & PETERSON, LLC. 121 WHITNEY AVENUE 3RD FLOOR NEW HAVEN, CT 06510			EXAMINER FORTUNA, JOSE A	
			ART UNIT	PAPER NUMBER
			1731	
SHORTENED STATUTORY PERIOD OF RESPONSE		MAIL DATE	DELIVERY MODE	
3 MONTHS		04/17/2007	PAPER	

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

## Office Action Summary

Application No.

10/666,878

Applicant(s)

KOSLOW, EVAN E.

Examiner

José A. Fortuna

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply.

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 1/17/07 & 3/14/07.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-24 and 41-43 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-24 and 41-43 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Claim Rejections - 35 USC § 112*

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 8, 13, 15, 21, 23, 24 and 41-43 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claims 8, 13, 15, 21, 23, 24 and 41, the claims are vague and indefinite, since the precipitation process is unclear, i.e., the newly added limitation states that the precipitation occurs at the surface of the nanofibers and/or said agent(s), that seems to indicate that the agent precipitates on itself. If the interception enhancing agent and the metal salt react to form a precipitate, it is not clear how it goes on the one of the reactants surface, i.e.,  $A + B \rightarrow C \downarrow$ . Does this means that it precipitates onto the surface of the not reacting agent?

In claim 24, the newly added limitation renders the claim indefinite since it is unclear if the interception agent is part of the "integrated paper" or part of the "carbon block," i.e., the claims reads "...around a carbon block, including..."

### *Claim Rejections - 35 USC § 103*

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

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having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1-7, 9-12, 14, 16-20 and 22 are rejected under 35 USC §103(a) as anticipated by Giglia et al., US Patent No. 4,929,502. This rejection is set forth in the prior Office action mailed on May 04, 2005.

5. Claims 8, 15, 21, 23-24 and 41-43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Giglia et al., cited above, in view of Sawan et al., US Patent No. 5,681,468, hereafter US'468 or Sawan et al., US Patent No. 5,817,325, hereafter US'325.

Giglia et al. as discussed in previous action teach the filter medium including the integrated paper as claimed. However, they fail to teach the interception-enhancing agent as it is now claimed in claims 8, 15, 21, 23-24 and 41-43. However, Sawan et al. teach the same interception enhancing agent, see the US'325, column 8, lines 45-68 and US'468, column 7, line 64 through column 8, line 36. Sawan et al. teach the advantages of using such interception agents, i.e., the formulation kills microorganisms on contact without leaching from the matrix, see abstract of the US'325 and columns 7-8 of the US'468. Therefore, using the interception agents as taught by Sawan et al., in both patents, as the antimicrobial agent on Giglia et al. filter medium would have been obvious to one of ordinary skill in the art in order to obtain the advantages discussed above. Moreover, one of ordinary skill in the art would have reasonable expectation of success if the antimicrobial agents taught by Sawan et al., both patents, were used as antimicrobial agents on Giglia et al. filter/membrane. Note that Giglia et al. teaches the use of antimicrobial agents on theirs filter medium and it has been held that "[W]here two equivalents are interchangeable for

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their desired function, substitution would have been obvious and thus, express suggestion of desirability of the substitution of one for the other is unnecessary." *In re Fout* 675 F. 2d 297, 213 USPQ 532 (CCPA 1982); *In re Siebentritt*, 372 F.2d 566, 152 USPQ 618 (CCPA 1967).

***Response to Arguments***

6. Applicant's arguments filed on August 28, 2006 have been fully considered but they are not persuasive.

Applicants arguments are not convincing, because it is the examiner contention that the teachings of the primary reference on column 1, lines 43-51, would certainly motivate to one of ordinary skill in the art to use fibrils with diameter of less than 1 micron, since it is known that fibers with less than 1 micron in diameter would be required to entrap and bind fine particles. Applicants have not provided any convincing arguments of why it would not have been obvious to one of ordinary skill in the art to use such range, i.e. less than 1 micron fibers, in view of the primary reference teaching. Note that it has been held that "A combination of reference teachings may be obvious in the technological sense even though business or economic considerations would previously have counseled against such a combination." *In re Farenkopf*, 713 F2d 714; 219 USPQ 1.


Note that the primary reference teaches that the diameter of fibers used is within 0.1-500  $\mu$ M, column 6, lines 33-36 which falls within the claimed range. Note also that from the statement of column 1, above, one of ordinary skill in the art would use fibrils with less than 1 microns in order to increase particles binding. Moreover, the advance in nanostructures the making of fibers in such dimensions is within the levels of one of ordinary skill in the art.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to José A. Fortuna whose telephone number is 571-272-1188. The examiner can normally be reached on 9:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven P. Griffin can be reached on 571-272-1189. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

  
José A. Fortuna  
Primary Examiner  
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JAF